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Assessing the potential for local action to achieve EU limit values

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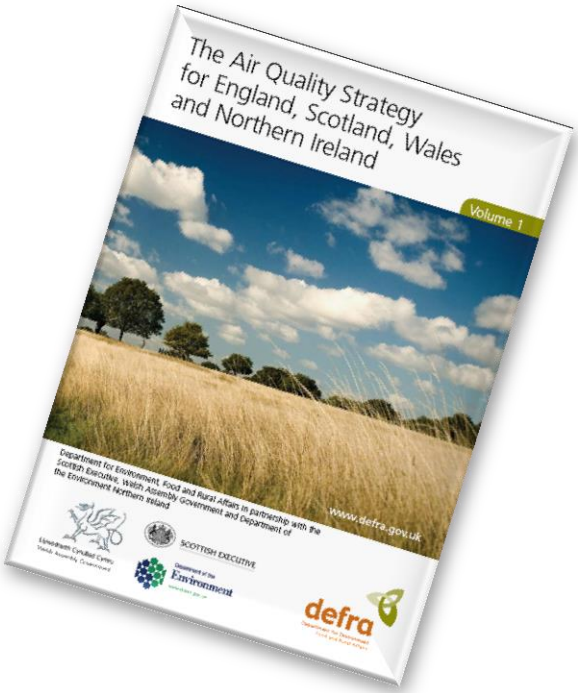
Outline

- Introduction
- Why are limit values being breached?
- Where next for Local Air Quality Management?
- Conclusions

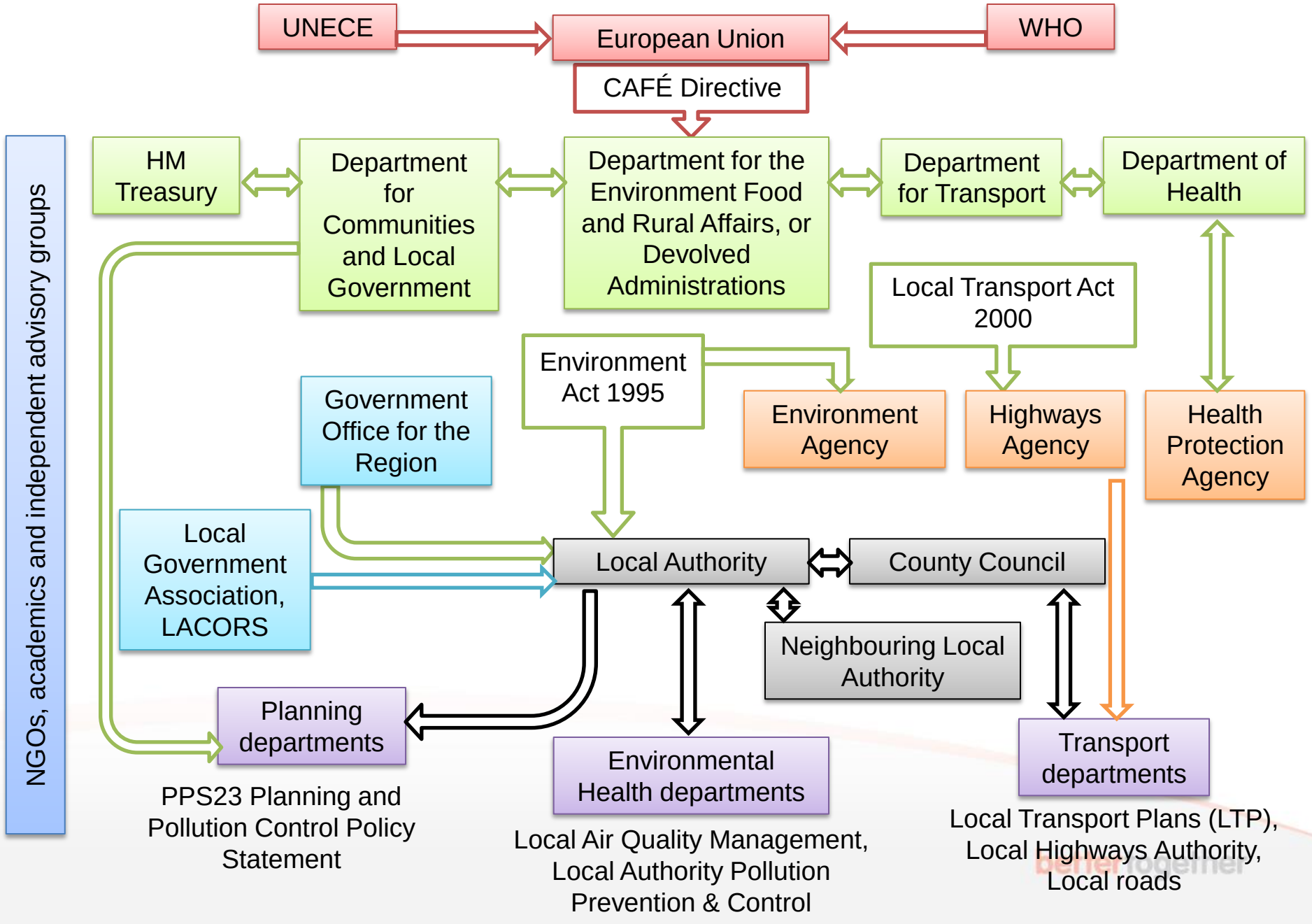
Basis for UK air quality management framework

Part IV of the UK Environment Act 1995 established a range of roles and responsibilities for both national and local government with respect to air quality management

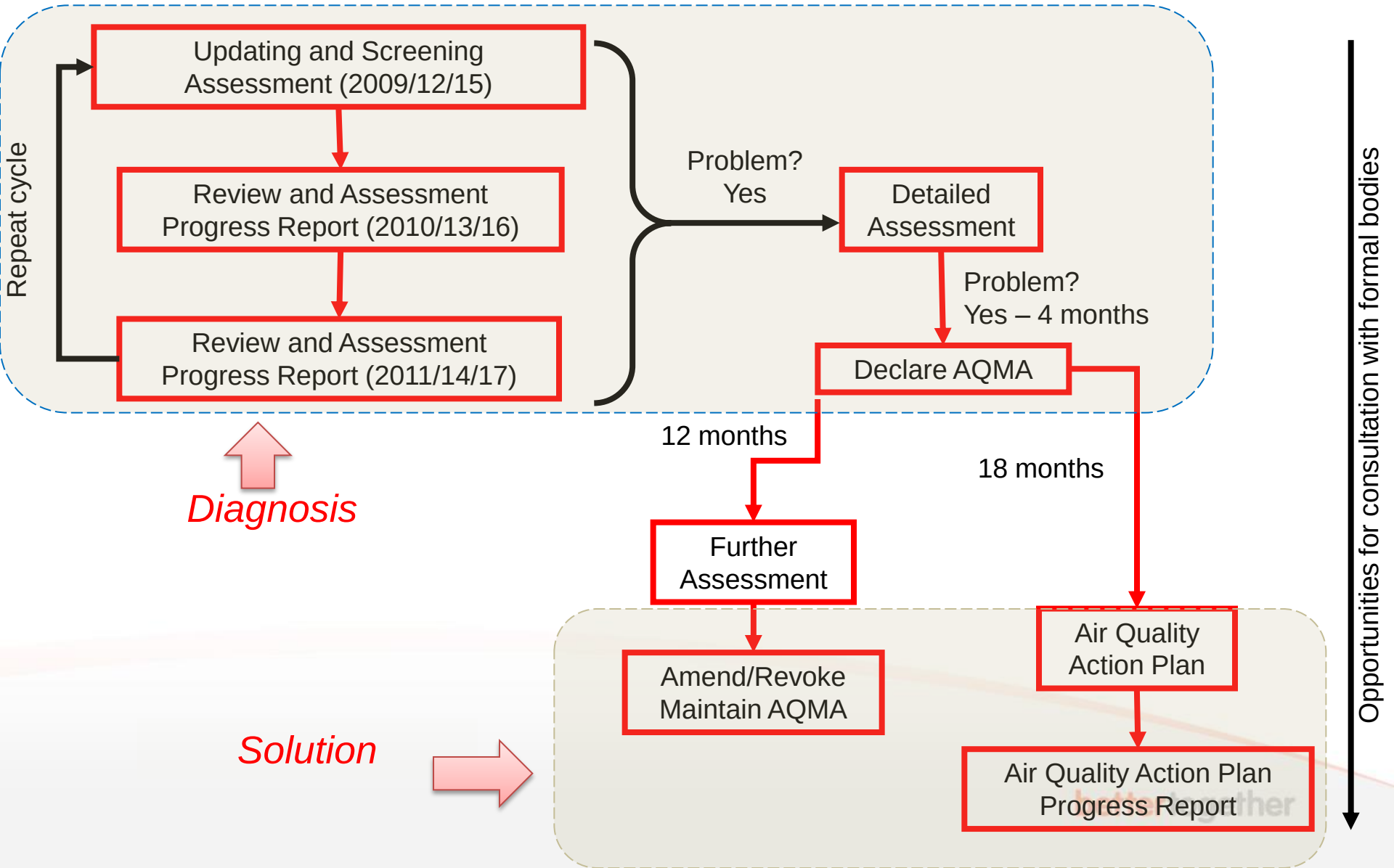


- A pre-emptive approach to address the 1996 EU Framework Directive
- Recognised the impact of traffic emissions on ambient air quality
- Health-effect based and cost-benefit tested
- Established national air quality objectives for the seven pollutants of concern (NO_2, PM_{10}, SO_2, CO, benzene, 1,3-butadiene and lead) which reflected the EU limit values
- Divided responsibility for managing air quality between central government
  - Central government to reduce pollutant concentrations across all relevant locations, while local authorities are to tackle residual local pollution hotspots

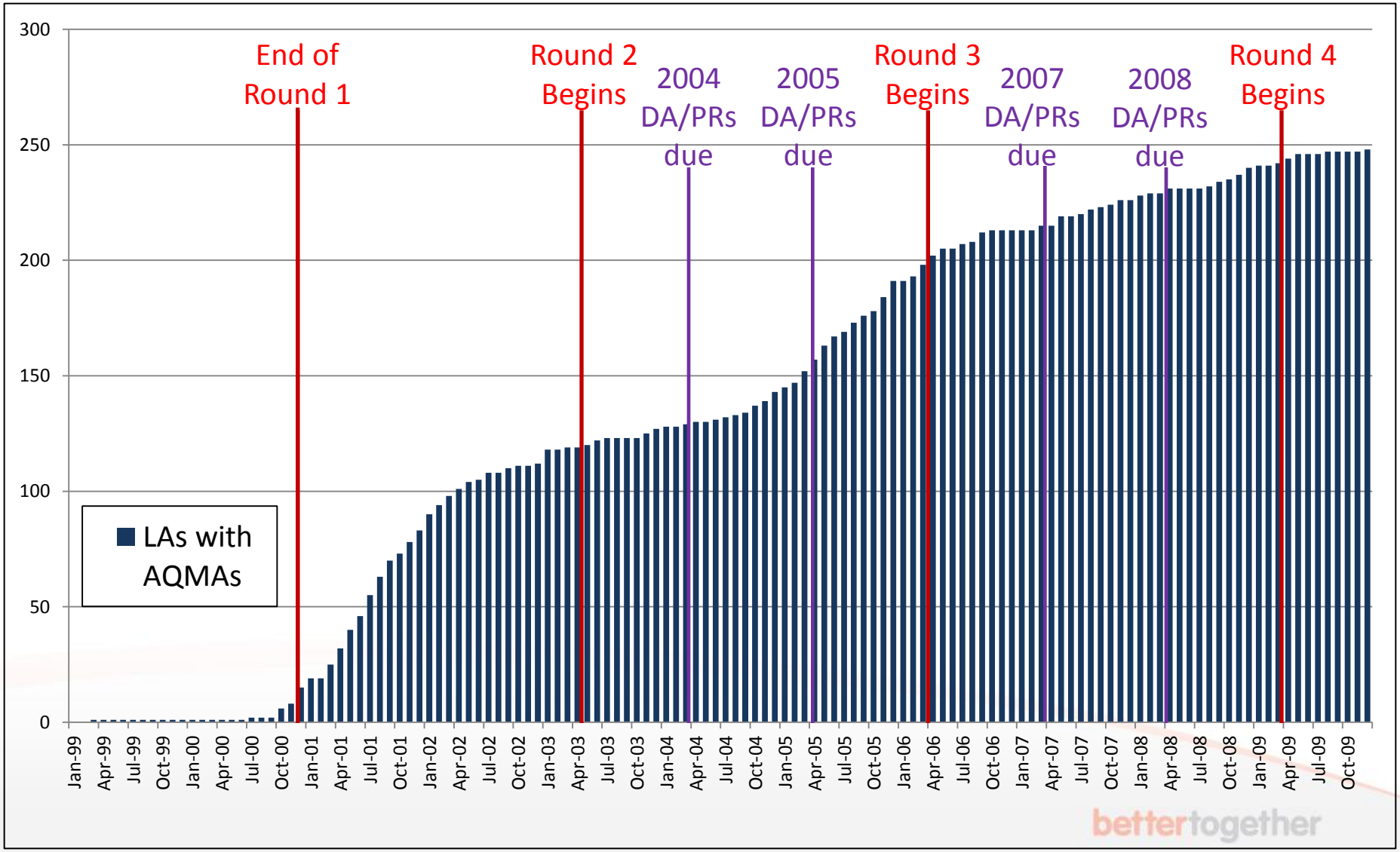
UK Air Quality Organisational Relationships



Local Air Quality Management

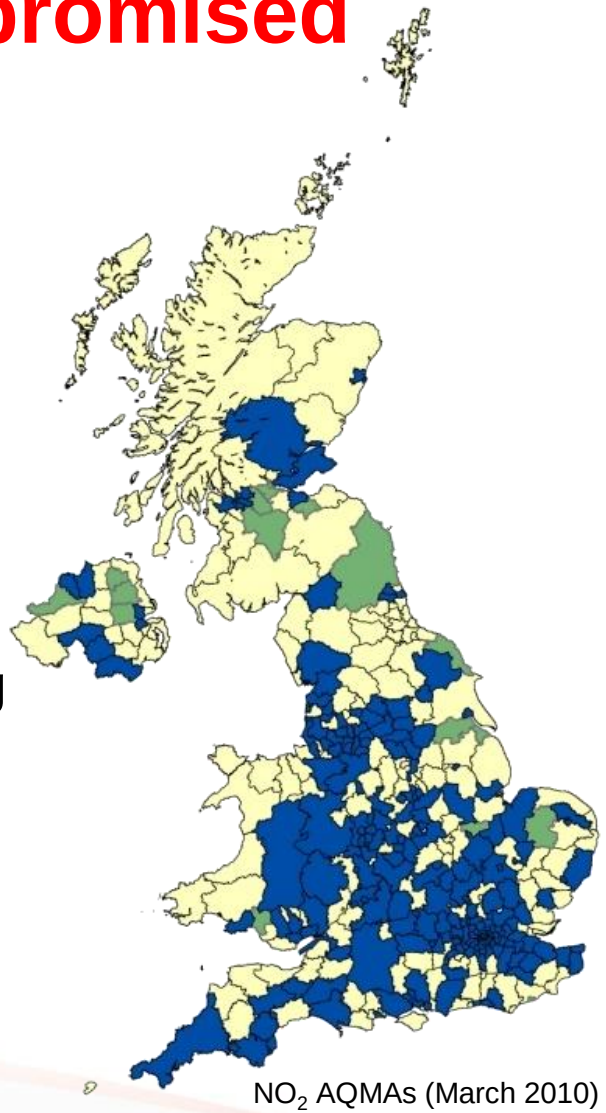


Number of Local Authorities with AQMAs



LAQM did not deliver as promised

- The extent and magnitude of these AQMAs was underestimated
- Exceedences of AQOs (and EU limit values) for NO_2 and PM_{10} are common and widespread
- 244 (60%) local authorities have declared AQMAs, primarily for NO_2 and PM_{10} from traffic sources
- No evidence of any traffic-related AQMAs having been revoked solely on the basis of their implementation
- The UK is currently exceeding the NO_2 annual mean limit values + Margin of Tolerance (MOT) (48 µg/m^3) in 40 out of 43 zones and agglomerations
- Time extension notification and Air Quality Plan to be submitted in September 2011



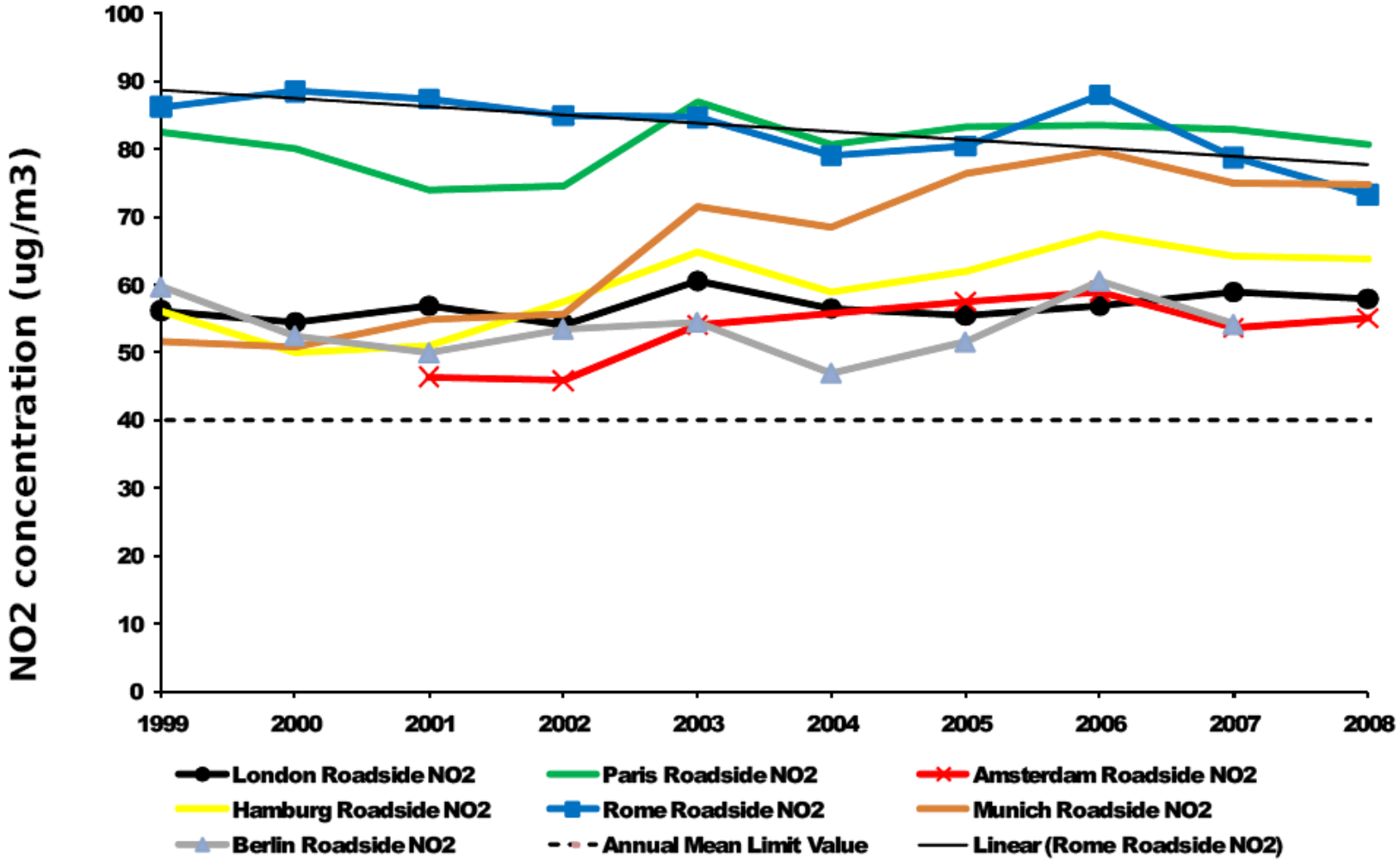
NO_2 AQMAs (March 2010)

Why are limit values being breached?

Emission factors/Euro standards

- Reliance on Euro standard vehicles to reduce concentrations of NOx and NO_2 may have been overoptimistic (Carslaw *et al* 2011)
- Trends in ambient NOx and NO_2 have levelled off from 2004 to 2009
- NOx emitted as primary NO_2 from motor vehicles has increased over the same period
- Roadside remote sensing detectors indicates higher emissions than those recorded in NAEI
- Decrease in NOx from petrol emissions is offset by ‘dieselisation’ of fleets for climate change reasons
- Underestimations of the rate of vehicle renewal
- Forecast concentrations failed to reflect monitoring trends due to flawed NAEI emission factors used by the government

Roadside NO_2 concentrations are not falling



Source: David Carslaw (2010) 'Recent evidence concerning trends in NOX and NO2 in the UK'
http://www.iaqm.co.uk/text/resources/no2_carslaw.pdf

Why are limit values being breached?

Lack of interdepartmental responsibility/political will

- Lack of interdepartmental communication in central government regarding the importance of air quality
- Lack of significant political priority for air pollution in transport policy
- Difficulty in raising awareness of local air quality by EHOs
- Limited ability to negotiate action plan measures and air quality assessments with local transport and planning departments
- Local politics, vested interests, short-termism and a lack of political leadership to pursue innovative approaches to economic development.

Why are limit values being breached?

Lack of funding

- Air quality management is significantly underfunded
- Limited air quality grants from Defra are oversubscribed
- Ring-fencing of air quality grants has been removed in 2011 to allow more flexibility in spending on other local priorities
- The reductions in previously available funding from LTP due to deprioritisation of air quality LTP3 process
- Political pressures to drive economic development will continue to reduce the chances of obtaining funding from developers to offset the air quality impacts of developments

Why are limit values being breached?

Scientific complexities

- **Health**
- Lack of public understanding of the significance of “200,000 premature deaths” or an “average two years life lost” due to human exposure to pollutants
- Uncertainty of the actual figures due to its non-identifiable link to direct physiological cause of death
- Reports are also usually pollutant specific

Why are limit values being breached?

Scientific complexities

- **Monitoring and modelling**
- Physicochemical properties of air pollution are complex resulting in a degree of uncertainty in the monitoring results
- Most common method of monitoring NO_2 in the UK, using passive diffusion tubes, is subject to ±25% uncertainty
- Dispersion modelling is subject to simplification of reality with limited inputs and various assumptions made in the absence of complete and accurate data
- Models are also subject to the uncertainties in the monitoring data against which the results have been assessed

Where next for Local Air Quality Management?

National agenda

- ‘Localism’ agenda
- Reduction in the bureaucratic burden on local authorities under the Government’s ‘Freedoms and Flexibilities’ agenda
- Enabling the transfer of responsibility for EU penalties to local authorities
- Changes in the LAQM framework could include:
  - consolidating EU and national air quality objectives
  - sharing information on compliance assessment with local authorities
  - including local AQAP measures in national air quality plans
  - continuing local screening for hotspots
  - introducing proportionate screening and reporting
  - introducing a national framework for Low Emission Zones

Where next for Local Air Quality Management?

Local implications

- Local authorities under significant pressure to ‘do more with less’
- Significant consequences of public funding cut for air quality management
- Removal of ring-fencing from air quality grants reduces the chances of safeguarding resources air quality management at the local level
- Staff cuts and redundancies implies EHOs will be covering additional duties and having to deal with new priorities
- Implications of devolving public health from regional PHAs to local authorities in two-tier county-district arrangement
- Uncertainties about local priorities under localism agenda

Conclusions

- Local authorities have excelled at diagnosing air quality problems,
- But implementation of Air Quality Action Plans has been constrained by a lack of funding, interdepartmental communication (nationally and locally), political will and public awareness
- UK Government's failure to meet EU Limit Values has led to greater recognition of the role of local authorities
- But will this be matched with resources or will local authorities have to swallow the fines?

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Thank you for your attention.

Any questions?

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